UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

November 10, 2008

Mr. Chris Carusona
Bureau of Land Management-Eastern States
Milwaukee Field Office
262 E Wisconsin Ave Suite 200
Milwaukee, WI 53202

RE: East Lynn Lake Coal Lease Draft Land Use Analysis and Draft Environmental Impact Statement (Wayne County, West Virginia) CEQ No. 20080242

Dear Mr. Carusona,

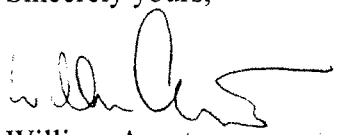
In accordance with the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508), the U.S. Environmental Protection Agency (EPA) has reviewed the East Lynn Lake Coal Lease Draft Land Use Analysis and Draft Environmental Impact Statement (EIS), referenced above. EPA believes that significant data have not been considered in the Draft EIS, and recognizes potential for environmental impact to aquatic resources. The document is considered an EO-2: there are environmental objections and it is recommended that additional information be added to the EIS; our rating system is attached and can be found on the EPA website, at the following address: http://www.epa.gov/compliance/nepa/comments/ratings.html.

The Draft EIS for the East Lynn Lake coal lease was prepared by the Bureau of Land Management (BLM) to compare a No Action alternative to the action of offering federal coal in the Coalburg/Winifrede seam for competitive leasing. The project area in Wayne County, West Virginia adjoins existing underground and surface coal mining operations, and includes a large surface water impoundment formed behind an earthen dam constructed and operated by the Army Corps of Engineers (the Corps) for flood control and recreation. The proposed action would allow leasing of the subsurface resource, with several conditions of the lease including that the resource could be mined by room and pillar method, maintaining a depth of at least 100 feet from the surface, leaving approximately half the coal in place, and allowing a 200 foot horizontal barrier to be protective of the dam structure, associated building, and the lake.

By virtue of a narrowly constructed Purpose and Need statement, the document analyzes a Proposed Action and No Action alternative. It is believed that this reduces the value of a document prepared for NEPA compliance, as evaluation of a range of alternatives for informed decision making is a core contribution of the NEPA process. EPA appreciates the considerable effort done in the EIS to present some of the current conditions and potential consequences of allowing underground mining operations to extend under the federal lands whose surface activities are controlled by the Corps. EPA believes that it is imperative for BLM to investigate and report data from additional sources that will better define the past and current conditions in regard to water quality and the geologic conditions of the project area. It seems imprudent to continue with decision making without consideration of the current impairments to water quality, likely to be resulting from mining activities which are documented by state, federal and academic institutions, and consideration of site specific geologic conditions including a fracture trace analysis, verification and mapping. As extensive geological investigation and modeling is not likely to be achieved at this point (and additional geologic data will include uncertainty with fracture locations and anisotropic movement of water between subsurface and surface), an alternative incorporating a more conservative and protective barrier between potential mining operations and the aquatic resources and existing earthen dam structure is recommended. Specific comments and requests for additional information for the Draft EIS are attached to this letter.

EPA appreciates the opportunity to review and comment on the Draft EIS for the East Lynn Lake Coal Lease project. Please feel free to contact Ms. Barbara Rudnick at (215) 814-3322 or email her at rudnick.barbara@epa.gov if there are questions regarding comments presented.

Sincerely yours,



William Arguto
NEPA Team leader

Attachment

Technical Comments

1. Page 6: The Purpose and Need of the project is stated as: "The purpose of the Proposed Action and associated proposed mining is to enable the Applicants to bid competitively for the right to mine the federal coal in a manner that: optimizes positive economic impacts related to use of the coal resource..." The need for the "Proposed Action and associated proposed mining is to: extend the life of the Applicants' existing, adjoining operations..." It is not conventional for the NEPA process to be done with a stated need being the specific action. The need is more typically stated as the "problem" in the area, for instance, few economic opportunities, waning energy resources, safety issues. The purpose of the document is to evaluate a range of alternatives (see CEQ 40 Questions 1 and 2, referencing NEPA sec. 1505.1(e) and 1502.14) that will address the need such as oil and gas development, hydroelectric development, or coal mining. Some alternatives can be removed from consideration after a weighted discussion is documented in the EIS. Among alternatives selected for detailed analysis in the Draft EIS, options may be evaluated, such as a more limited action (see CEQ 40 Questions, 1bA), combining alternatives or a phased alternative. A NEPA document may appear biased when only doing the proposed action can meet the stated need.

2. Page 31: It is unclear how exploratory drilling could be considered an action unrelated to mining which is evaluated in this environmental document.

3. Page 45: The term "blow-outs" is used on page 45, but not defined until page 50.

4. Viewing figures of drainage, it appears that some stream reaches (markedly straight) may be fracture controlled. A more detailed fracture trace analysis of air photos (in addition to the analysis in Figure 3.1-5), and field verification, will likely need to be completed if leasing is permitted. Potential environmental consequences will need to be evaluated, monitored and mitigated if necessary.

5. Page 56: The timing of development of gas resources is unclear as presented in the EIS. It is stated that a buffer of 100 to 200 feet will be maintained around an oil or natural gas well; and it is stated if wells are "negotiated, they are likely to be placed within a pillar". Is there an existing resource development priority between oil and gas exploration and coal mining on the property? Page 60: It is stated that up to 20 more wells are may be installed; it is uncertain if this is exploration or development. It is unclear if exploration will need to stop at that point being limited by coal mining potential, or if exploration has been completed and the 20 wells are the final requirement of gas development within the project area. Loss of coal revenues to gas are estimated; if gas development is limited by coal mining, can loss of gas revenues to coal be estimated?

6. Have any of the structural integrity, subsidence predictions include the likelihood of gas wells within pillars? The document reports that at least 144 wells already exist within the property considered for leasing, Page 60-62.

7. Page 58: The document reports that natural fracturing typically extends to a depth of 50 to 100 feet. References should be cited. Although this may be generally true, and is sometimes stated as 150 feet, deeper water-bearing fractures are not unheard of. The description of fractures presented in appendix B, page 9 should be expanded and brought into the context of the main evaluation. Being protective of the earthen dam structure, designed to function for more than 100 years, is of primary importance; a conservative approach which incorporates the uncertainty of location and depth of fractures should prevail. (Did the design of the dam consider the possibility of expanding underground mining?)

8. The document should include a geologic map of the study area at a scale where rock types and structure can be identified (maybe 1:36,000), a stratigraphic column and cross-sections should be developed. Figure 3.1-19, 20 give some information on dip, but it is not certain that this is consistent with other beds and is not complete for the study area. The description of structure presented in appendix B, page 9 should be expanded and brought to the text.

9. Figure 3.1-12: The figure is very useful, but portrays so much information it is hard to decipher. The orange color gradation is too close to be able to decipher on the map. It might be helpful to separate some of the information in other figures, and then combine it as shown. How does "surface mine" differ from "active, moving coal"?

10. Page 68: The EIS states that WVDEP have put approximately eight streams in the vicinity of the proposed lease tracts, and East Lynn Lake, on its 303(d) list, for biological impairment and for one creek for elevated levels of iron. It is stated that the source of impairment is unknown. It appears that hypotheses have been investigated to try to identify potential sources of impairment. Data for other constituents, including metals should be reported.

    The USACE has historically funded Marshall University to conduct research projects on East Lynn Lake and the watershed. These studies have documented that water quality of East Lynn Lake is impaired by mining activities within the Twelvepole Creek Watershed and that the aquatic life within the lake is adversely affected (See Dr. Don Tarter and graduate students at Marshall University; specifically, Hubert Zappia 1989). The coal industry (Randy Maggard) has performed on-going biological and water quality surveys within the Twelvepole Creek watershed for nearly 15 years. These data should be used within the DEIS to document the projected effects of the proposed mining on the aquatic life and water quality of the streams and East Lynn lake.

11. Page 81, sec 3.2.2b Significance Criteria: The significance criteria for surface water quality are: an exceedance of WVDEP surface water standards, including applicable anti-

degradation standards; and/or-degradation of water quality in any one of the streams crossing the proposed lease tracts to a point where the stream is listed on the WVDEP 303(d) list. As noted above, streams within the Twelvepole Creek Watershed have been included in the WVDEP 303(d) list in 2004 and 2008. A probable cause of the biological impairment was mining related. The DEIS needs to address this.

12. Figure 3.2-2: The figure shows a great number of sampling locations present in the study area. It is hard to identify the sampling locations used in the document (three stations in Table 3.2-7) to discuss East Lynn Lake water quality. Though period of record was stated as the criteria for selecting these sampling points, it would be useful to see additional data to support that the data are representative. Additional data could include sample location, physical parameters, chemical parameters including metals, distance from surface or underground workings, and if possible season and weather conditions. Many factors are needed for data interpretation. It would be helpful to have a figure which highlights impaired streams, sample locations possibly overlain with important land use features.

13. Page 82: It would be useful to present sampling data to support that groundwater quality is not degraded through contact will mining operations in the Coalburg/Winifrede seam. Are these data consistent with other agency sampling results and conclusions?
Page 89 (Water Quality): Although the DEIS used coal industry supplied data on drinking well water quality, the authors did not use the extensive drinking well water quality work completed by Dr. Ben Stout, Wheeling Jesuit University. It is recommended that the DEIS include the work of Dr. Stout.

14. Discussion of the role of secondary porosity and permeability in the study area is essential to the evaluation and decision-making on leasing the land for coal extraction. Please cite a reference for the statement that fracture zones are confined to valleys and valley floors and greater description. Information from Appendix B, page 9 should be expanded and brought into the evaluation of potential groundwater and surface water interaction, bedrock stability during and after proposed activities, and uncertainties in conclusions drawn from hydraulic conductivities. It does not seem unreasonable to predict some enhancement of connection between groundwater and surface water in an area that would undergo exploratory drilling and resource extraction.

15. Page 87: Well depth and logs should be added, if available.

16. Page 91: Hydraulic conductivity for areas with secondary porosity and permeability, such as where fracture zones are present, should be discussed. Implications to other issues such as blow-outs, and scenarios described on pages 97-98 should be included.

17. Page 82, Page 97: The estimated time for water to fill the mine is 150 years on page 82, and 50 on page 97. Is there discussion of the difference?

18. Page 92: Though coal has been tested for sulfur content, it is equally important to evaluate the presence of sulfur-bearing minerals (especially pyrite) in the shale or other

rock types interbedded with coal seems. It is unclear if these rock types were included in the samples analyzed. This will be important as materials removed and separated will be disposed within or near the project area, and material left in place will have increased exposure to groundwater, chemical and physical weathering, etc.

19. Page 94: Evaluation of impact of changes of parameters in the watershed which have been linked to biological impairment should be expanded in the DEIS. Alkaline mine water has been shown to impair the aquatic life of streams in southern West Virginia (Pond GJ, Passmore ME, Borsuk FA, Reynolds L, Rose CJ (2008) Downstream effects of mountaintop coal mining: comparing biological conditions using family- and genus-level macroinvertebrate bioassessment tools. Journal of the North American Benthological Society: Vol. 27, No. 3 pp. 717–737). Elevated TDS can eliminate certain species of insects (e.g. mayflies – Ephemeroptera) from the stream which will lead to the stream being listed on the WVDEP 303(d) list due to reduced scores for the West Virginia Stream Condition Index (WVSCI) and Index of Biological Integrity (IBI).

20. Page 125 (Fish and Wildlife Resources): The DEIS states that the fishery potential in the lake is considered to be hindered by poor to fair water quality, citing the USACE. The Draft EIS should present fish data available from the coal industry, and state/federal agencies (e.g. data collected by Randy Maggard, Marshall University theses). In addition, the DEIS should use the state assessment methods which use benthic macroinvertebrates in addition to fish. The WVDEP 303(d) list uses the benthic macroinvertebrate IBI (WVSCI and GLIMPS, Genus Level Invertebrate Macroinvertebrate Protocol) to assess the quality of streams. Since WVDEP has listed Twelvepole Creek streams on the 303(d) list, the DEIS should be expanded use available biological data to assess and investigate the potential of the proposed coal lease to impact the future quality of the water and aquatic communities in the study area.

21. The DEIS does not mention secondary impacts associated with the proposed action. Are any secondary impacts expected? Additional infrastructure, the enlargement of the slurry impoundment (which was evaluated as a cumulative impact in the DEIS), exploratory drilling would typically be considered secondary impacts of the project.

22. A discussion of secondary and cumulative impacts should present data trends for resources of interest in the document (those potentially impacted). Background water quality prior to the 1970's, if available, should be included to show trends in degradation. The DEIS, and much available data, portrays a watershed with water quality degradation, as evidenced by the inclusion of Twelvepole Creek watershed in the 2004 and 2008 WVDEP Integrated Report 303(d) . The DEIS criteria "reduction in viability of any species" has been shown to be violated (i.e. loss of mayfly taxa and WVSCI impairment). This should be addressed in the DEIS.

23. The ongoing mining activity will require that a larger and an additional surface slurry impoundment be constructed and maintained in the watershed as stated on page 226. The proposed disposal of mining waste is an incremental additional risk, and incremental

source of watershed degradation, and could be evaluated as a potential source of a major release.

24. Page 252: The DEIS states "In the future, market demands may lead to high extraction underground mining within the cumulative effects area. This method produces more coal, but causes more impacts to resources. The potential for subsidence is extremely high. Indirect impacts to surface water quantity and quality could occur..." The DEIS should address this scenario. This type of mining has caused significant environmental harm to streams in southwestern Pennsylvania (i.e. Enlow Fork of Wheeling Creek) and has been identified as the cause of a dam failure (Duke Lake at Ryerson Station State Park) and subsidence under interstate highways and public roads. The subsidence has caused streams to completely lose water permanently and also caused riffle run streams to turn into sediment laden pool habitat reaches.

25. Page 254 (Significance Criteria): Significance criteria are stated as: impacts to surface water or groundwater that would result in a decrease in aquatic habitat quality; disruption of fish and wildlife breeding or nesting activity to the extent that reproductive success is impaired and reduction in viability of any species through direct mortality or behavioral disruption. As noted in Pond et al 2008 (NABS), mayfly taxa are eliminated from mining impaired streams including streams within the Twelvepole Creek watershed. In addition, WVDEP lists streams on their WVDEP 303(d) list based on impaired biological communities. The loss of mayfly taxa is a significant cause of impairment as measured by the WVDEP WVSCI benthic macroinvertebrate IBI. The mayflies are not capable of surviving in the impaired streams due to some factor related to mining activity whether it is TDS or metals, etc. (see Pond et al 2008). This fact appears to relate to the significance criteria – "reduction in viability of any species through direct mortality or behavioral disruption." The DEIS should address this issue.

26. Several conditions were stated that are proposed to be included on the leasing agreement. It is unclear if the conditions can be modified and if commitments made in the NEPA document are binding.

27. Environmental Justice issues have been reviewed by EPA and the following comments prepared:

a) Examination of demographic data for the area in close proximity to the East Lynn Reservoir indicates that a considerable percentage of the population in that area is low-income. The document correctly points out that the Wayne County percentage of the population living below the poverty level exceeds the state average. However, when the percentages of population living close to the reservoir are examined, the percentages of that population living below the poverty level (47.46% within a one mile radius, 38.21% within a two mile radius, 33.13% within a three mile radius, and 26.42% within a 9 mile radius) are considerably about the state and county averages (17.46% and 19.45% respectively according to the 2000 census). This information indicates that there are indeed populations that should be acknowledged as being populations of Environmental

Justice concern located in the area of study. There were 969 persons living within a three mile radius of the reservoir as of the 2000 census. That same census reported a population of more than 12,000 persons living within 9 miles. When it is taken into consideration that more that one quarter of the population in the area is living below the poverty level, it seems most reasonable to assume that there is a considerable population in the area that represents a community of Environmental Justice concern. Environmental Justice is a major consideration for this project, and must be recognized as such.

b) The document fails to provide detailed information as to the nature and extent of the community involvement and public outreach activities that were to be instituted to assure the appropriate involvement of the sizeable poor population of the area. It seems that meetings and forums were held at considerable distance from the actual area where the community that may be most impacted by activities are located. What are the strategies that will be used to assure the appropriate involvement of the citizens in the decision making process?

c) Greater consideration needs to be given to cumulative impacts that may impact the resident population. There will be impacts associated with any and all activities that are undertaken. However, there seems to be little attention paid to what those impacts are, where and how close to resident populations that will be, and what the nature and extent of those impacts will be. How do mitigation measures address these concerns?

d) There seems to be an assumption that the leases will only have positive impacts upon the population. What documentation exists that demonstrates that there will be positive impacts on this community. This state has and does have a considerable number of this type of project, but the percentage of the population living below the poverty level remains well above the national average. Additional information is required to justify the assertions made regarding the benefits to the communities economically.

RATING THE ENVIRONMENTAL IMPACT OF THE ACTION

- **LO (Lack of Objections)** The review has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposed action.
- **EC (Environmental Concerns)** The review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.
- **EO (Environmental Objections)** The review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). The basis for environmental Objections can include situations:
    1. *Where an action might violate or be inconsistent with achievement or maintenance of a national environmental standard;*
    2. *Where the Federal agency violates its own substantive environmental requirements that relate to EPA's areas of jurisdiction or expertise;*
    3. *Where there is a violation of an EPA policy declaration;*
    4. *Where there are no applicable standards or where applicable standards will not be violated but there is potential for significant environmental degradation that could be corrected by project modification or other feasible alternatives; or*
    5. *Where proceeding with the proposed action would set a precedent for future actions that collectively could result in significant environmental impacts.*
- **EU (Environmentally Unsatisfactory)** The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The basis for an environmentally unsatisfactory determination consists of identification of environmentally objectionable impacts as defined above and one or more of the following conditions:
    1. *The potential violation of or inconsistency with a national environmental standard is substantive and/or will occur on a long-term basis;*
    2. *There are no applicable standards but the severity, duration, or geographical scope of the impacts associated with the proposed action warrant special attention; or*
    3. *The potential environmental impacts resulting from the proposed action are of national importance because of the threat to national environmental resources or to environmental policies.*

RATING THE ADEQUACY OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)

- **1 (Adequate)** The draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.
- **2 (Insufficient Information)** The draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the proposal. The identified additional information, data, analyses, or discussion should be included in the final EIS.
- **3 (Inadequate)** The draft EIS does not adequately assess the potentially significant environmental impacts of the proposal, or the reviewer has identified new, reasonably available, alternatives, that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant

environmental impacts. The identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. This rating indicates EPA's belief that the draft EIS does not meet the purposes of NEPA and/or the Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS.